

FIG. 6A

FIG. 6B

FIG. 6C

Centriolin Nud1-GFP-expressing cells

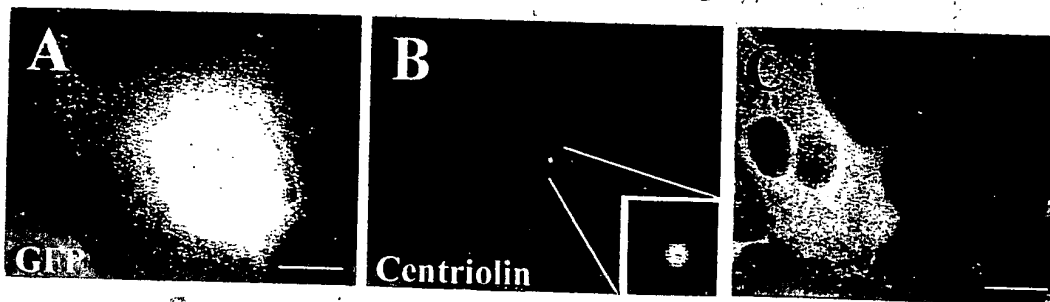
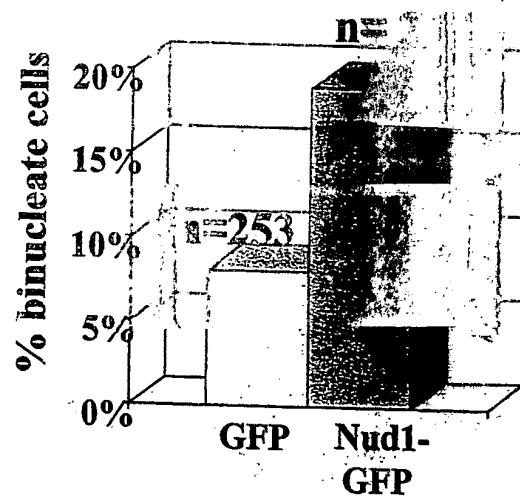
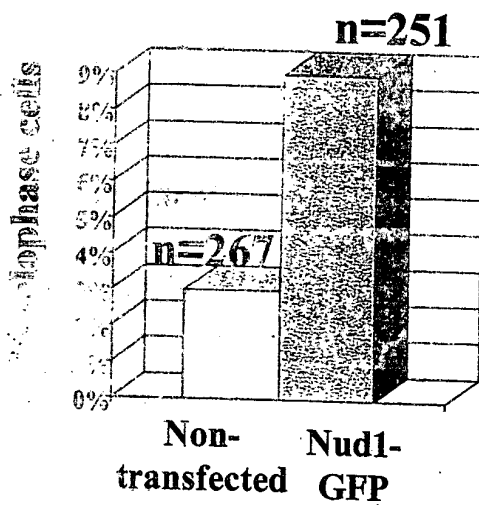


FIG. 6D

FIG. 6E



7400

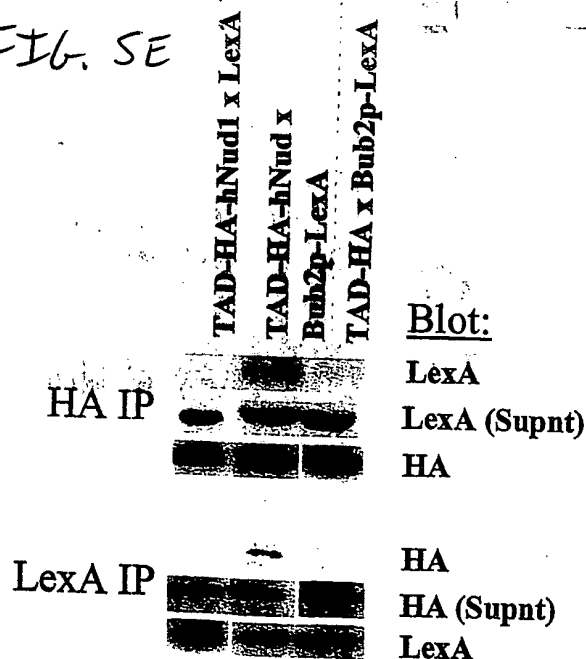
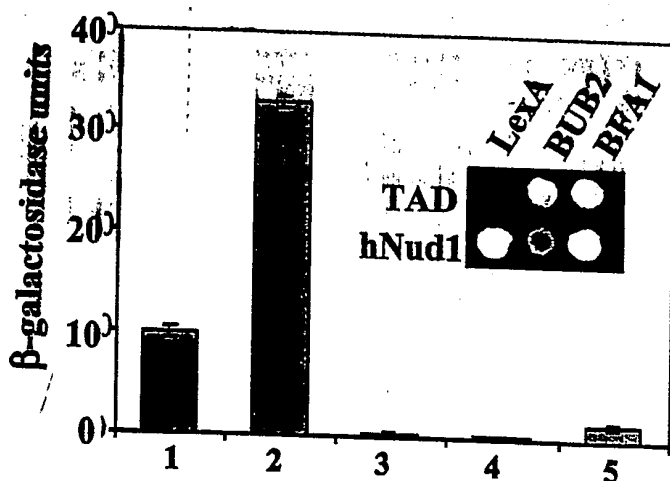
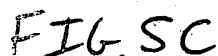
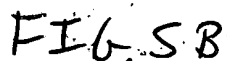


FIG. 6A

FIG. 6B

FIG. 6C

Centriolin Nud1-GFP-expressing cells

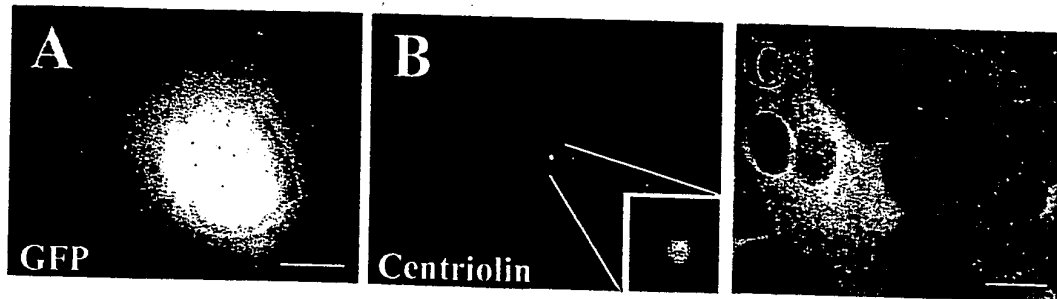


FIG. 6D

FIG. 6E

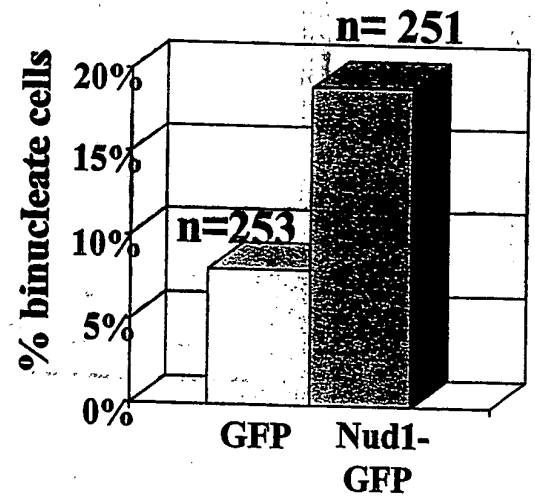
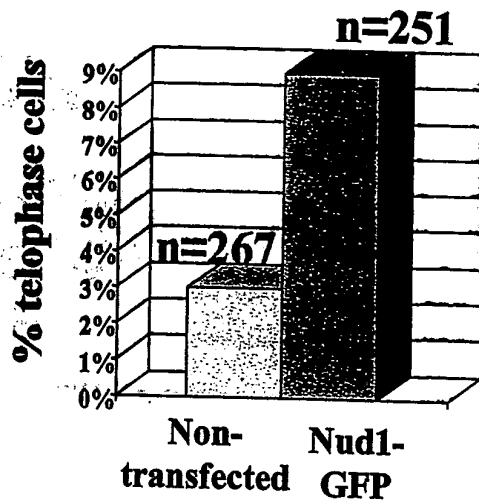


FIG. 7A

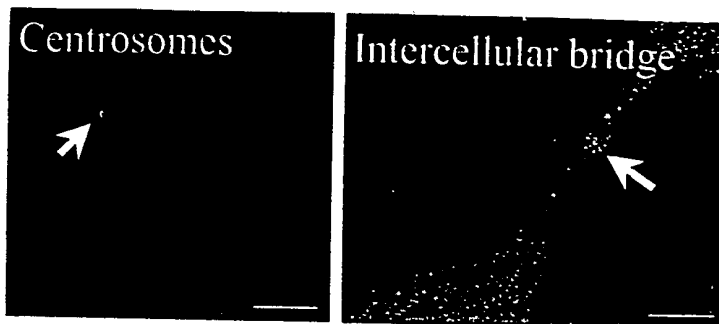


FIG. 7B

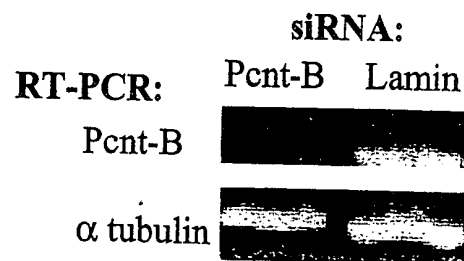


FIG. 7C

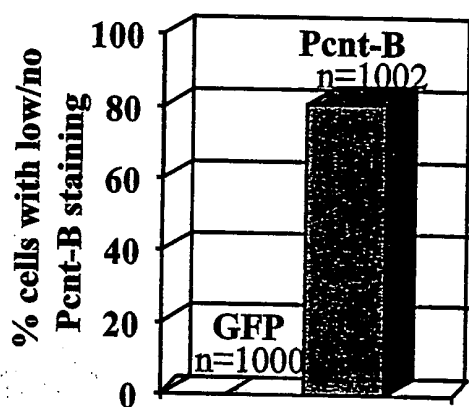


FIG. 7D

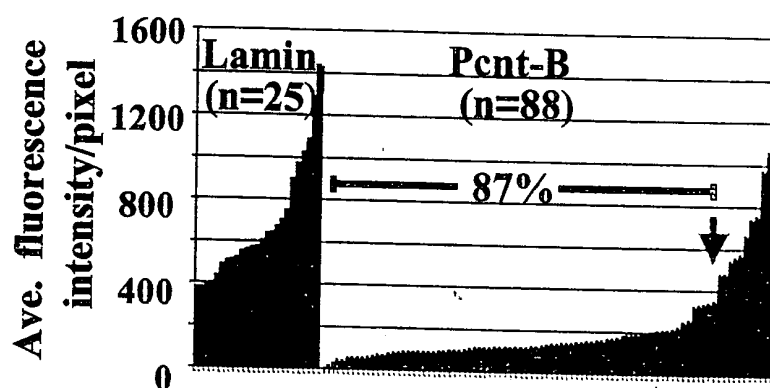


FIG. 7E

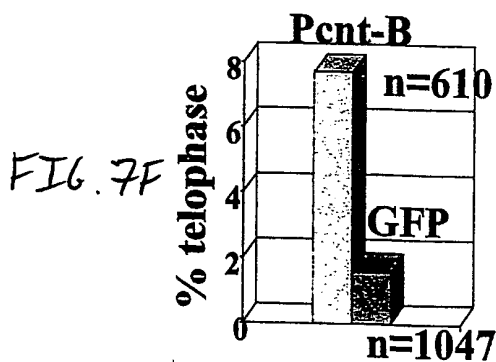
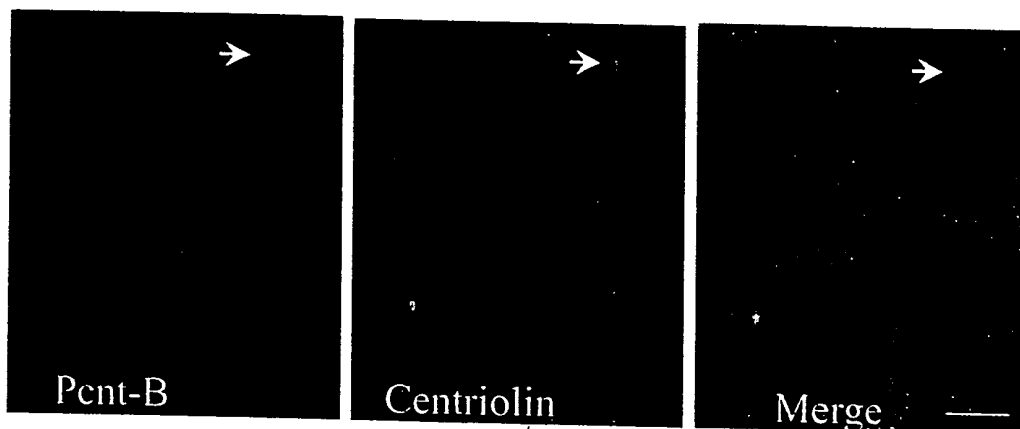


FIG. 7F

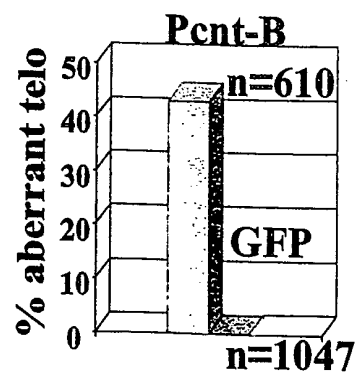


FIG. 7G

FIG. 3A

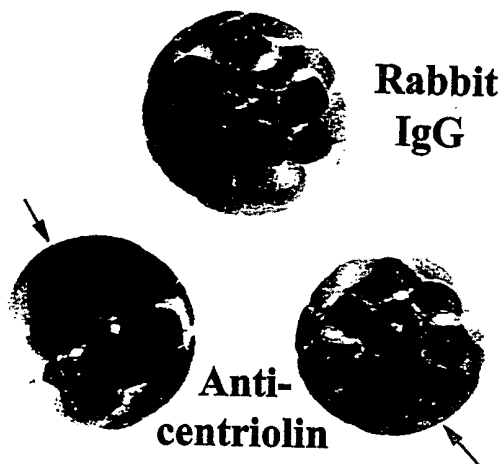


FIG. 3B

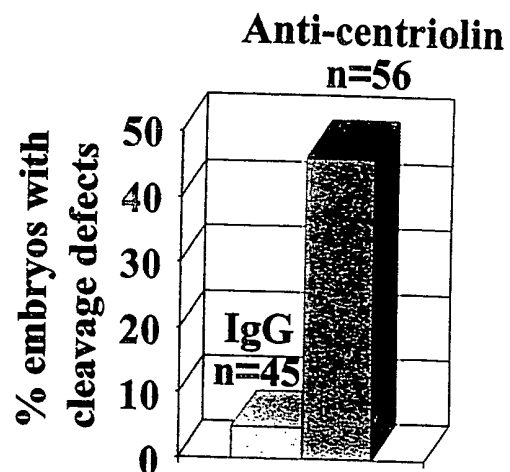


FIG. 3C

FIG. 3D

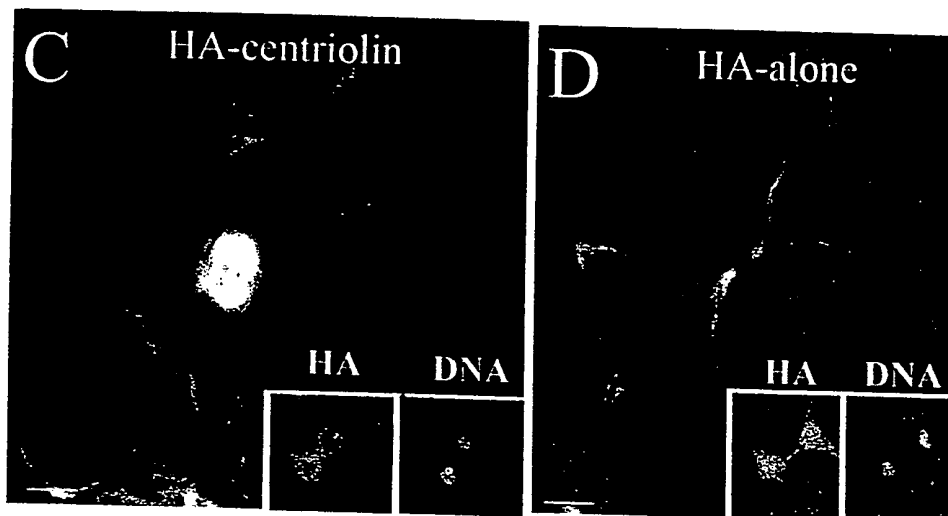


FIG. 3E

FIG. 3F

FIG. 3G

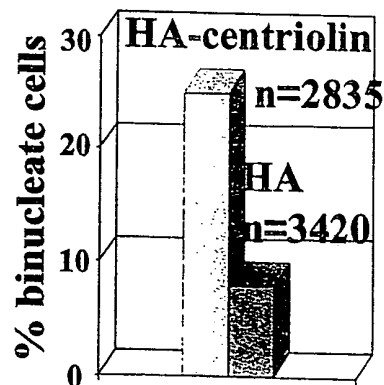
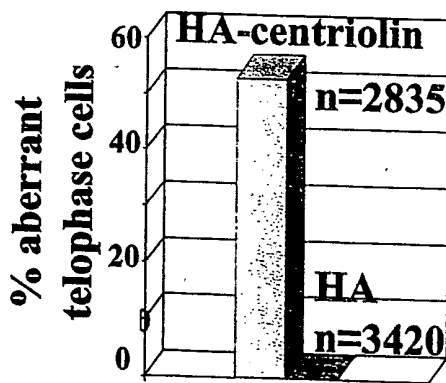
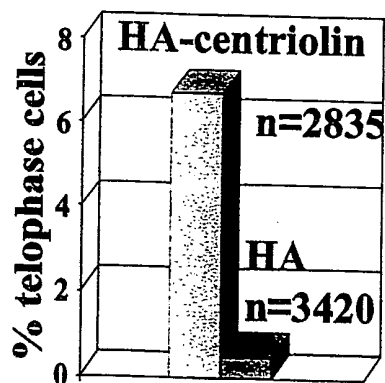


FIG 2A

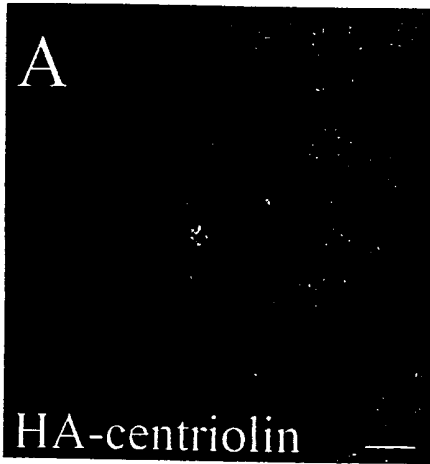


FIG 2B

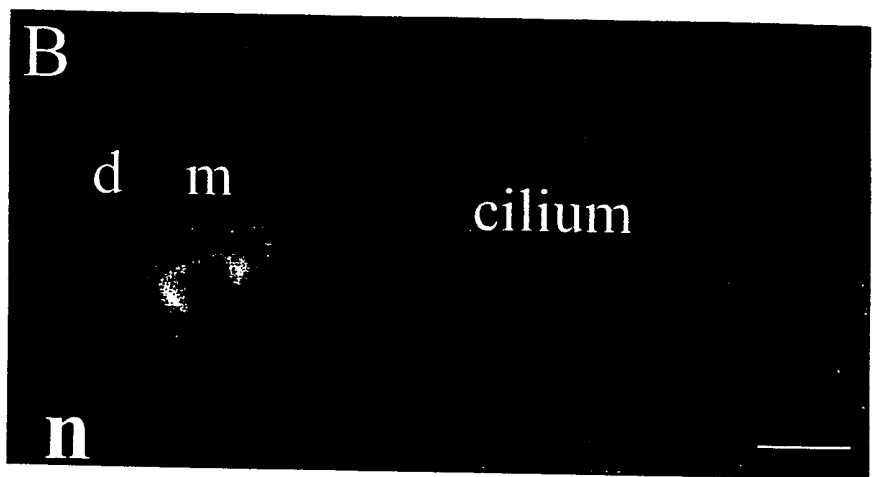


FIG 2C



FIG 2D



FIG 2E

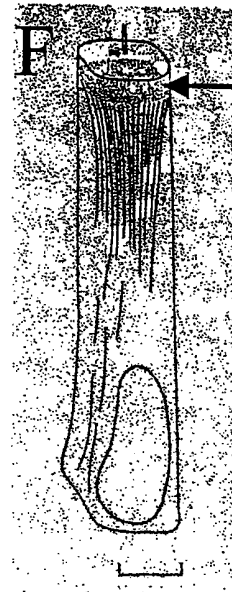


FIG. 2F

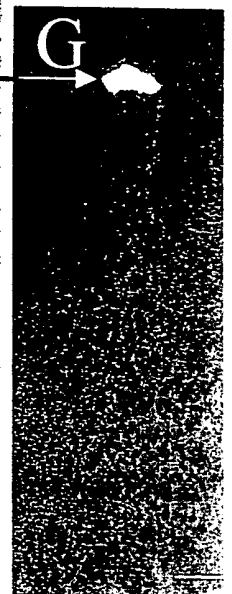


FIG. 2G

FIG 1A

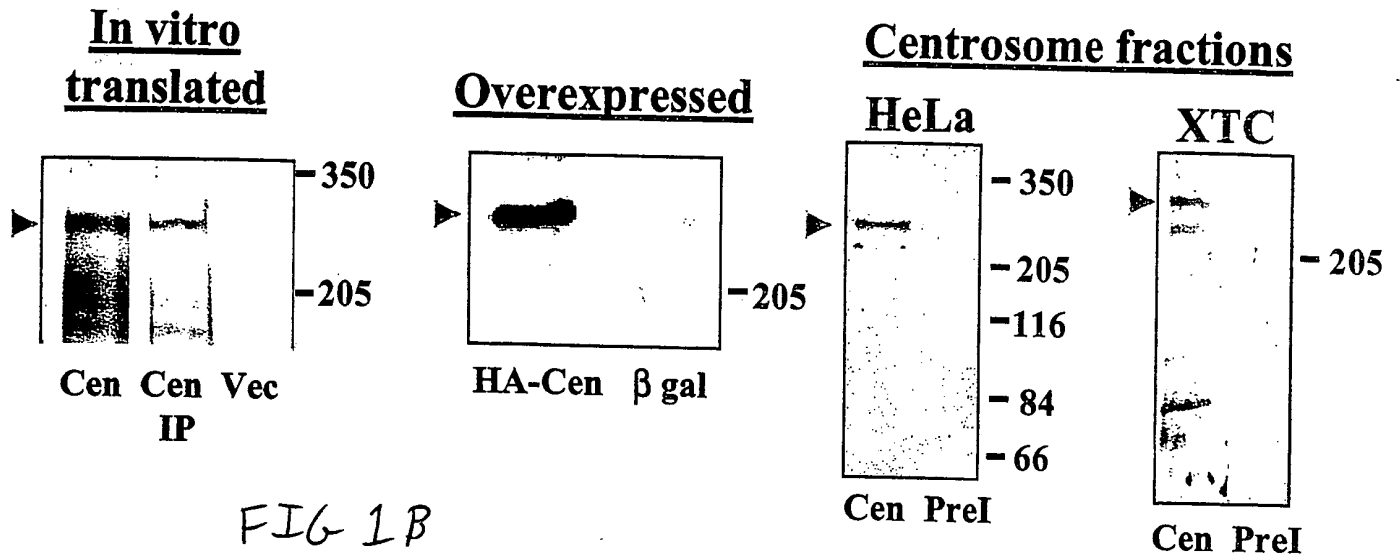


FIG 1B

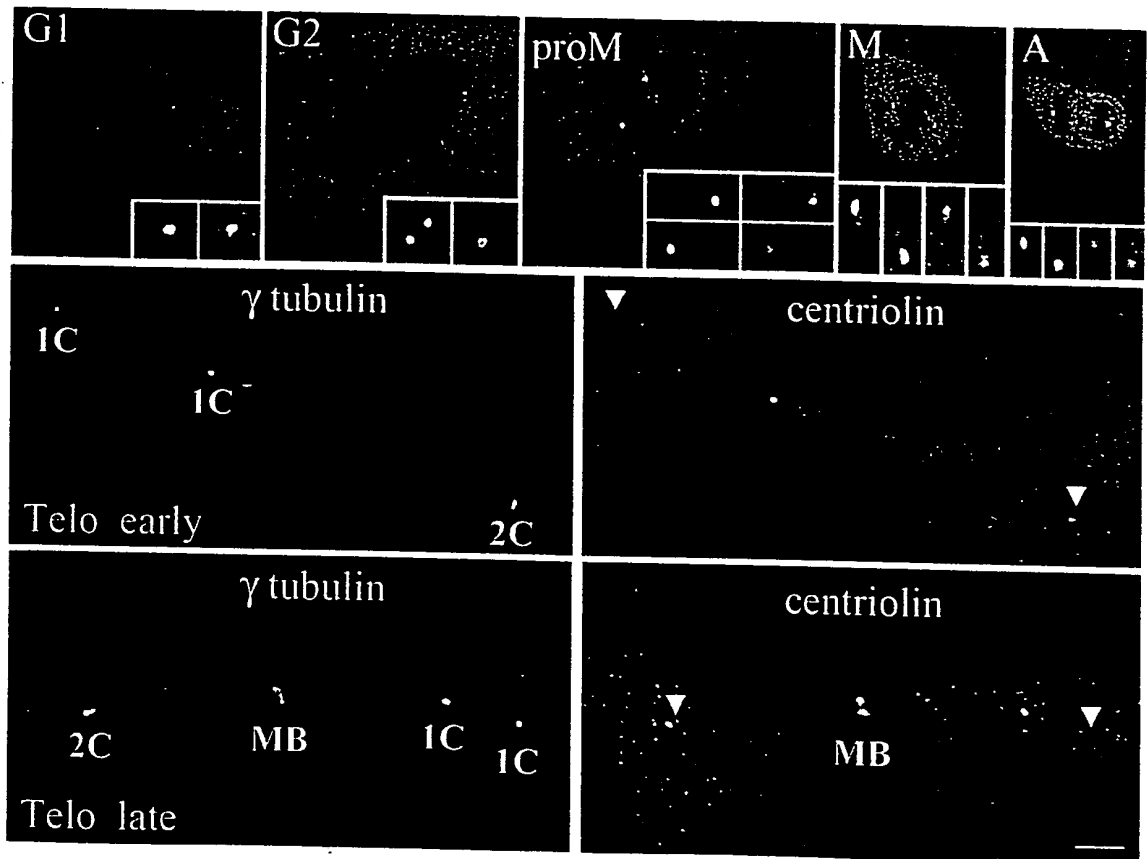


FIG. 15A

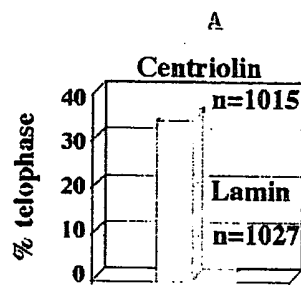


FIG. 15B

FIG. 15C

FIG. 15D

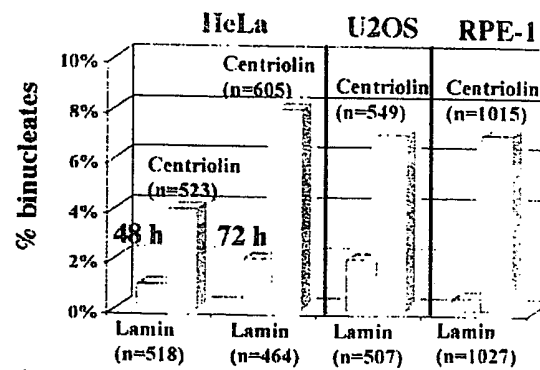


FIG. 15E  
Interphase

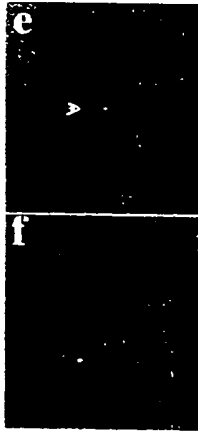


FIG. 15G  
proM/M



FIG. 15I  
telophase



FIG. 15K  
MT nucleation



FIG. 15M  
Cytokinesis defects

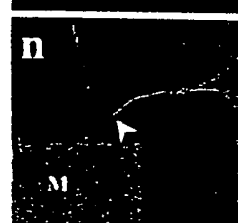
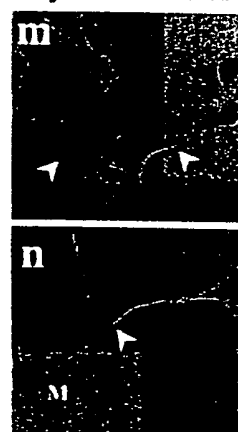


FIG. 15F

FIG. 15H

FIG. 15J

FIG. 15L

FIG. 15N



FIG. 8A

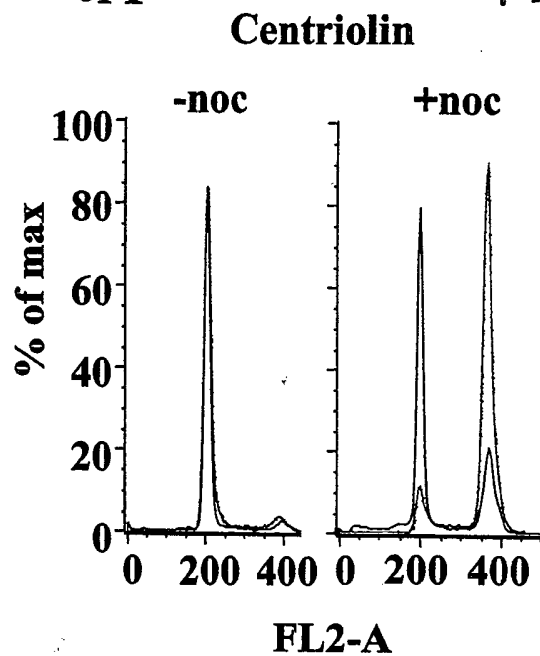


FIG. 8B

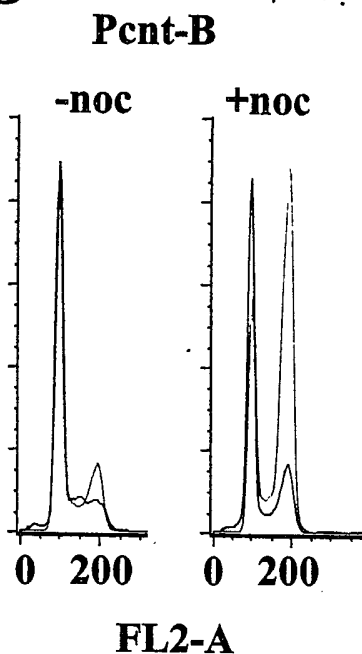


FIG. 8C

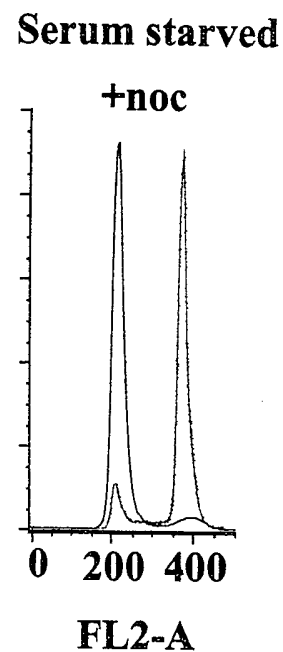


FIG. 8D

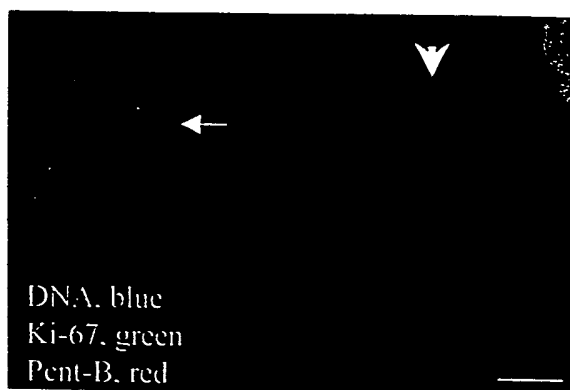


FIG. 8E

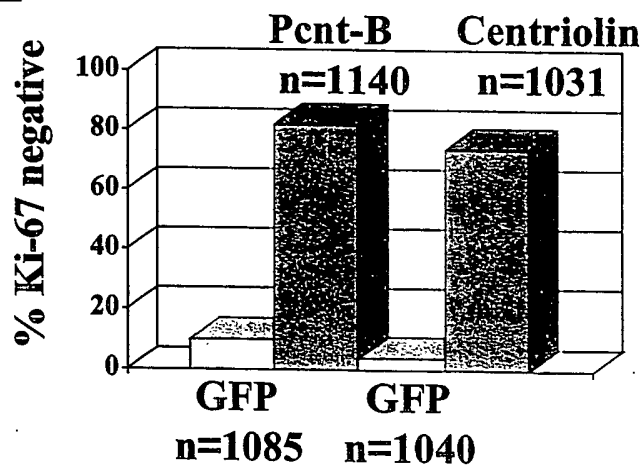


FIG. 8F

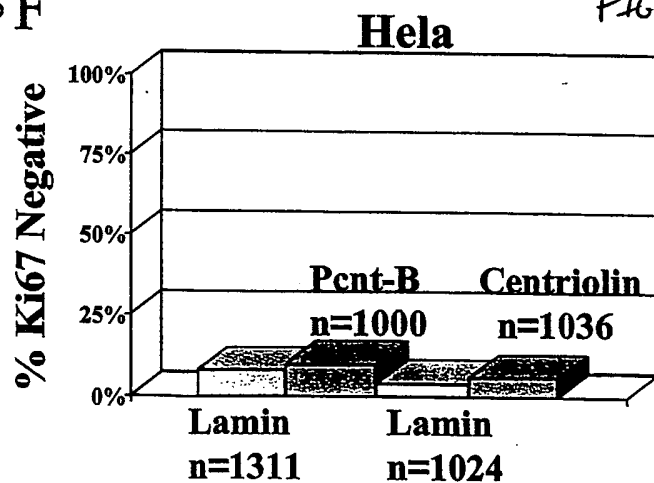
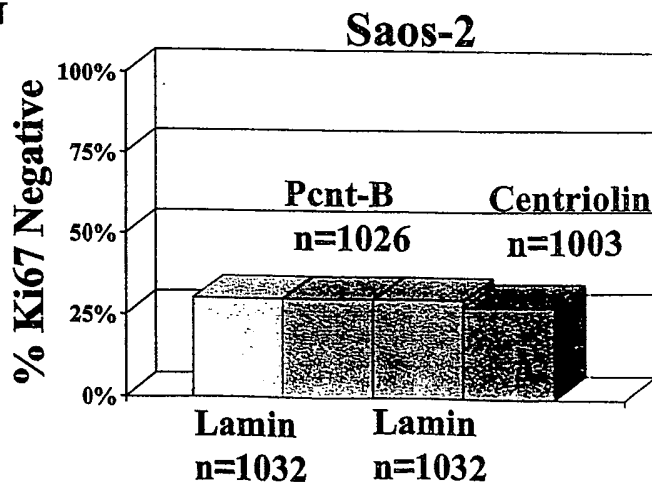


FIG. 8G



**Without nocodazole**

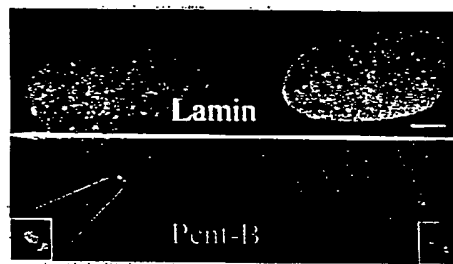
	<b>% G1</b>	<b>% S</b>	<b>% G2</b>
<b>Centriolin</b>	74	13	4
<b>Lamin (control)</b>	62	23	7
	<b>% G1</b>	<b>% S</b>	<b>% G2</b>
<b>Pcnt-B</b>	70	13	14
<b>GFP (control)</b>	46	35	19

**With nocodazole**

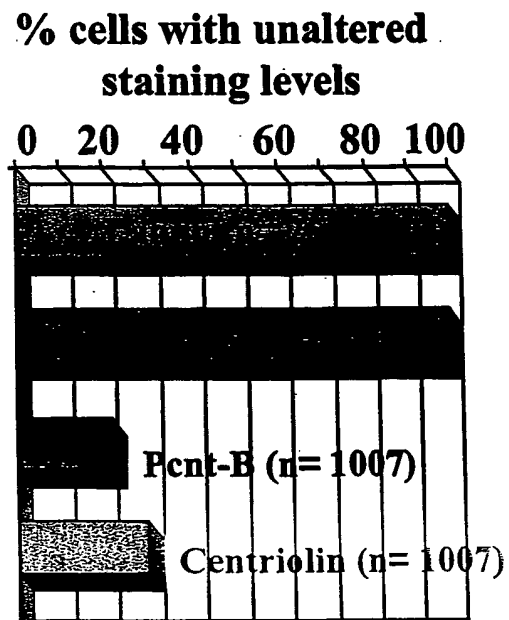
	<b>% G1</b>	<b>% S</b>	<b>% G2</b>
<b>Centriolin</b>	49	13	23
<b>Lamin (control)</b>	19	19	46
	<b>% G1</b>	<b>% S</b>	<b>% G2</b>
<b>Pcnt-B</b>	65	14	19
<b>GFP (control)</b>	24	15	60

**Cell cycle analysis of flow cytometry data (Fig 8).**

**Figure 9**



**Figure 10**



**Figure 11**

# FIG. 12A

1  
 atgaagaaaggttctcaacaaaaaatattctccaaagcaaagata  
 M K K G S Q Q K I F S K A K I  
  
 46  
 ccatcatcatctcactctcctatcccatcatctatgtccaatatg  
 P S S S H S P I P S S M S N M  
 91  
 agatctaggtcactttcacctttgattggatcagagactctacct  
 R S R S L S P L I G S E T L P  
 136  
 ttctattctggaggacagtgggtgtgagcaaattgagattgcagat  
 F H S G G Q W C E Q I E I A D  
 181  
 gaaaacaatatgctttttggactatcaagaccataaaggagctgat  
 E N N M L L D Y Q D H K G A D  
 226  
 tcacatgcaggagttagatatattacagaggccctcattaaaaaa  
 S H A G V R Y I T E A L I K K  
 271  
 cttactaaacaggataatttggctttgataaaatctctgaacctt  
 L T K Q D N L A L I K S L N L  
 316  
 tcactttctaaagacggtggcaagaaatttaagtatatattgagaat  
 S L S K D G G K K F K Y I E N  
 361  
 ttggaaaaatgtgttaaacttgaagtactgaatctcagctataat  
 L E K C V K L E V L N L S Y N  
 406  
 ctaatagggaagattgaaaaagttggacaagctgttaaaattacgt  
 L I G K I E K L D K L L K L R  
 451  
 gaactcaacttatcatataacaaaaatcagcaaaaattgaaggcata  
 E L N L S Y N K I S K I E G I  
 496  
 gaaaatatgtgtaatctgcaaaaagcttaaccttgaggaaatgaa  
 E N M C N L Q K L N L A G N E  
 541  
 attgagcatattccagtatggttagggaagaagttaaaatctttg  
 I E H I P V W L G K K L K S L  
 586  
 cgagtccctcaatttgaaaggcaacaagatatcatcgctccaagat  
 R V L N L K G N K I S S L Q D  
 631  
 ataagcaagttgaaaccgcttcaagatttgatttctctgatccta  
 I S K L K P L Q D L I S L I L  
 676  
 gttgaaaatccagttgtgacccttcctcattacctccagtttacc  
 V E N P V V T L P H Y L Q F T  
 721  
 attttccacctccgttcattggaaagtttggaaggtcagccagta  
 I F H L R S L E S L E G Q P V  
 766  
 accactcaggatagacaggaggcttttgagagattcagtttagaa  
 T T Q D R Q E A F E R F S L E  
 811

# FIG. 12B

gaggtagaagactggaaagagacctagaaaaaagatgatagaa  
 E V E R L E R D L E K K M I E  
 856  
 actgaagagcttaagagcaaacaacaagggttccttgaggaaatt  
 T E E L K S K Q T R F L E E I  
 901  
 aaaaatcaagataaattgaataaatcattaaaagaggaggccatg  
 K N Q D K L N K S L K E E A M  
 946  
 ttacagaaacagagctgtgaggaactcaagagtgacttaaacaca  
 L Q K Q S C E E L K S D L N T  
 991  
 aaaaatgaattgctaaaacagaagaccatagaattaacacgagca  
 K N E L L K Q K T I E L T R A  
 1036  
 tgtcagaagcaatatgagctggaacaggaattggccttttataaa  
 C Q K Q Y E L E Q E L A F Y K  
 1081  
 attgatgctaaatttgagccactaaattattatccatcagagtat  
 I D A K F E P L N Y Y P S E Y  
 1126  
 gctgaaattgataaagccccagatgaaagcccttacattggcaaa  
 A E I D K A P D E S P Y I G K  
 1171  
 tccagatacaagagaaatatgtttgccacagagagttatattatt  
 S R Y K R N M F A T E S Y I I  
 1216  
 gacagtgtcaggcagtagacatcaagaagatggagccagatgaa  
 D S A Q A V Q I K K M E P D E  
 1261  
 caacttagaaatgatcacatgaacttgagaggccacacaccactg  
 Q L R N D H M N L R G H T P L  
 1306  
 gacacgcaactggaagacaaagaaaaaaaaataagtgcagcacaa  
 D T Q L E D K E K K I S A A Q  
 1351  
 actcgactatcagaactgcatgatgaaatagaaaaggcagaacaa  
 T R L S E L H D E I E K A E Q  
 1396  
 caaattttgagagctactgaagaattttaacaactggaagaagct  
 Q I L R A T E E F K Q L E E A  
 1441  
 atacaactaaaaaagatttcagaagcagggaagaccttctttac  
 I Q L K K I S E A G K D L L Y  
 1486  
 aagcagttgagtggtagactacaacttgtaaataaattacgccag  
 K Q L S G R L Q L V N K L R Q  
 1531  
 gaagctctggatctagaactgcagatggaaaagcaaaagcaggaa  
 E A L D L E L Q M E K Q K Q E  
 1576  
 attgccggaagcagaaggagattaaggacctgcaaataagccata  
 I A G K Q K E I K D L Q I A I  
 1621  
 gatagcctggattccaaagacccaaaacattcccatatgaaggct  
 D S L D S K D P K H S H M K A

# FIG. 12C

1666  
 caaaagagcggtaaagaacaacagcttgacattatgaacaagcag  
 Q K S G K E Q Q L D I M N K Q  
 1711  
 taccaacaacttgaaagtcgtttggatgagatactttctagaatt  
 Y Q Q L E S R L D E I L S R I  
 1756  
 gctaaggaaacggaagagattaaggaccttgaagaacagcttact  
 A K E T E E I K D L E E Q L T  
 1801  
 gaaggccagatagcagcaaatgaagccctgaagaaggatttagaa  
 E G Q I A A N E A L K K D L E  
 1846  
 ggtgttatcagtggttgcaagaatacctggggaccattaaaggc  
 G V I S G L Q E Y L G T I K G  
 1891  
 caggcaactcaggcccagaatgagtgaggaagctgcgggatgag  
 Q A T Q A Q N E C R K L R D E  
 1936  
 aaagagacattgttgcagagattgacagaagtcgagcaggagaga  
 K E T L L Q R L T E V E Q E R  
 1981  
 gaccagctggaaatagttgccatggatgcagaaaatatgaggaag  
 D Q L E I V A M D A E N M R K  
 2026  
 gagcttgagagctagaaaagtgcctccaagagcagcatgaggtg  
 E L A E L E S A L Q E Q H E V  
 2071  
 aatgcacatctttgcagcagacccaggagatctcagtgccctatgaa  
 N A S L Q Q T Q G D L S A Y E  
 2116  
 gctgagctagaggctcggctaaacctaagggatgctgaagccaac  
 A E L E A R L N L R D A E A N  
 2161  
 cagctcaaggaagagttggaaaaagtaacaagacttaccagtta  
 Q L K E E L E K V T R L T Q L  
 2206  
 gaacaatcagcccttcaagcagaacttgagaaggaaaggcaagcc  
 E Q S A L Q A E L E K E R Q A  
 2251  
 ctcaagaatgcccttgaaaaagcccagttctcagaagaaaaggag  
 L K N A L G K A Q F S E E K E  
 2296  
 caagagaacagtgagctccatgcaaaacttaaacacttgaggat  
 Q E N S E L H A K L K H L Q D  
 2341  
 gacaataatctgttaaaacagcaacttaaaagatttccagaatcac  
 D N N L L K Q Q L K D F Q N H  
 2386  
 cttaaccatgtggttgatgggttggttcgtccagaagaagtggca  
 L N H V V D G L V R P E E V A  
 2431  
 gctcgtgtggatgagctaagaagaaaactgaaattaggaactggg  
 A R V D E L R R K L K L G T G  
 2476  
 gaaatgaacatccatagtccttcagatgtcttagggaaaagtctt

# FIG. 12D

E M N I H S P S D V L G K S L  
 2521  
 gctgatttacagaaacaattcagtgaaattcttgcacgctccaag  
 A D L Q K Q F S E I L A R S K  
 2566  
 tgggaaagagatgaagcacaagttagagagagaaaaactccaagaa  
 W E R D E A Q V R E R K L Q E  
 2611  
 gaaatggctctgcagcaagagaaaactggcaactggacaagaagag  
 E M A L Q Q E K L A T G Q E E  
 2656  
 ttcaggcaggcctgtgagagagccctggaagcaagaatgaatttt  
 F R Q A C E R A L E A R M N F  
 2701  
 gataagaggcaacatgaagcaagaatccagcaaatggagaatgaa  
 D K R Q H E A R I Q Q M E N E  
 2746  
 attcactatttgaagaaaatctaaaaagtatggaggaaatccaa  
 I H Y L Q E N L K S M E E I Q  
 2791  
 ggccttacagatctccaacttcaggaagctgatgaagagaaggag  
 G L T D L Q L Q E A D E E K E  
 2836  
 agaattctggcccaactccgagagttagagaaaaagaagaaactt  
 R I L A Q L R E L E K K K K L  
 2881  
 gaagatgccaaatctcaggagcaagtttttggttagataaagaa  
 E D A K S Q E Q V F G L D K E  
 2926  
 ctgaagaaactaaagaaagccgtggccacctctgataagctagcc  
 L K K L K K A V A T S D K L A  
 2971  
 acagctgagctcaccattgccaagaccagctgaagtccttcat  
 T A E L T I A K D Q L K S L H  
 3016  
 ggaactgttatgaaaattaaccaggagcgagcagaggagttgcag  
 G T V M K I N Q E R A E E L Q  
 3061  
 gaagcagagaggttcagcagaaaggcagcacaagcagccagagat  
 E A E R F S R K A A Q A A R D  
 3106  
 ctcacccgagcagaagctgagatcgaactcctgcagaatctcctc  
 L T R A E A E I E L L Q N L L  
 3151  
 aggcagaagggggagcagtttgcacttgagatggagaaaaacaggt  
 R Q K G E Q F R L E M E K T G  
 3196  
 gtaggtagtgagcaaaactcacaggctcctagaaattgagaaactg  
 V G T G A N S Q V L E I E K L  
 3241  
 aatgagacaatggaacgacaaaggacagagattgcaaggctgcag  
 N E T M E R Q R T E I A R L Q  
 3286  
 aatgtactagacctcactggaagtgacaacaaaggaggctttgaa  
 N V L D L T G S D N K G G F E  
 3331



# FIG. 12E

aatgttttagaagaaattgctgaacttcgacgtgaagtttcttat  
 N V L E E I A E L R R E V S Y  
 3376  
 cagaatgattacataagcagcatggcagatcctttcaaaagacga  
 Q N D Y I S S M A D P F K R R  
 3421  
 ggctattgggtacttttatgccaccaccaccatcatcaaaagtttcc  
 G Y W Y F M P P P P S S K V S  
 3466  
 agccatagttcccaggccaccaaggactctgggtgttgcccttaag  
 S H S S Q A T K D S G V G L K  
 3511  
 tactcagcctcaactcctgttagaaaaccacgccctgggcagcag  
 Y S A S T P V R K P R P G Q Q  
 3556  
 gatgggaaggaaggcagtcacactccccctgcctcaggatactgg  
 D G K E G S Q P P P A S G Y W  
 3601  
 gtttattctcccatcaggagtgggttacataaactgtttccaagt  
 V Y S P I R S G L H K L F P S  
 3646  
 agagatgcagacagtgaggagatagtcaggaagagagtgaagctg  
 R D A D S G G D S Q E E S E L  
 3691  
 gatgaccaagaagaacccccatttgtgcctcctcctggatacatg  
 D D Q E E P P F V P P P G Y M  
 3736  
 atgtatactgtgcttctctgatggttctcctgtaccccagggcag  
 M Y T V L P D G S P V P Q G M  
 3781  
 gccctgtatgcaccacctcctcccttgccaaacaatagccgacct  
 A L Y A P P P P L P N N S R P  
 3826  
 ctcacccctggcactgttgtttatggcccacctcctgctggggcc  
 L T P G T V V Y G P P P A G A  
 3871  
 cccatgggtgtatgggcctccaccccccaacttctccatccccttc  
 P M V Y G P P P P N F S I P F  
 3916  
 atccctatgggtgtgctgcattgcaacgtccctgaacaccataac  
 I P M G V L H C N V P E H H N  
 3961  
 ttagagaatgaagtttcttagattagaagacataatgcagcattta  
 L E N E V S R L E D I M Q H L  
 4006  
 aaatcaaagaagcgggaagaaagggtggatgagagcatccaagcgg  
 K S K K R E E R W M R A S K R  
 4051  
 cagtcggagaaagaaatggaagaactgcataatattgatgat  
 Q S E K E M E E L H H N I D D  
 4096  
 cttttgcaagagaagaaaagcttagagtgtgaagtagaagaatta  
 L L Q E K K S L E C E V E E L  
 4141  
 catagaactgtccagaaacgtcaacagcaaaaggacttcattgat  
 H R T V O K R O O O K D F T D

# FIG. 12F

4186

ggaaatgttgagagtcttatgactgaactagaaatagaaaaatca  
G N V E S L M T E L E I E K S

4231

ctcaaaccatcatgaagatatgttagatgaaattgagtgcattgag  
L K H H E D I V D E I E C I E

4276

aagactcttctgaaacgtcgtcagagctcagggagctgaccga  
K T L L K R R S E L R E A D R

4321

ctcctggcagaggctgagagtgaactttcatgcactaaagaaaag  
L L A E A E S E L S C T K E K

4366

acaaaaaatgctgttgaaaagttcactgatgccaaagagaagtta  
T K N A V E K F T D A K R S L

4411

ttgcaaactgagtcagatgctgaggaattagaaaggagagctcag  
L Q T E S D A E E L E R R A Q

4456

gaaactgctgttaacctcgtcaaagctgatcagcagctaagatcg  
E T A V N L V K A D Q Q L R S

4501

ctccaggctgatgcaaaggatttgagcagcacaaaatcaagcaa  
L Q A D A K D L E Q H K I K Q

4546

gaagaaatcttgaaagaaataaacaaaattgtagcagcaaaagac  
E E I L K E I N K I V A A K D

4591

tcagacttccaatgtttaagcaagaagaaggaaaaactgacagaa  
S D F Q C L S K K K E K L T E

4636

gagcttcagaaactacagaaagacatagagatggcagaacgcaat  
E L Q K L Q K D I E M A E R N

4681

gaggatcaccacctgcaggtccttaaagaatctgaggtgcttctt  
E D H H L Q V L K E S E V L L

4726

caggccaaaagagccgagctggaaaagctgaaaagccaggtgaca  
Q A K R A E L E K L K S Q V T

4771

agtcagcagcaggagatggctgtcttgacaggcagttagggcat  
S Q Q Q E M A V L D R Q L G H

4816

aaaaaggaggagctgcatctactccaaggaagcatgggtccaggca  
K K E E L H L L Q G S M V Q A

4861

aaagctgacctccaggaagctctgagactgggagagactgaagta  
K A D L Q E A L R L G E T E V

4906

actgagaagtgaatcacattagggaagttaaattctcttctggaa  
T E K C N H I R E V K S L L E

4951

gaactgagttttcagaaaggagaactaaatgttcagattagtga  
E L S F Q K G E L N V Q I S E

4996

agaaaaactcaacttacacttataaagcaggaaattgaaaaagag

FIG. 12 G

R K T Q L T L I K Q E I E K E  
5041  
gaagaaaatcttcaggttggttttaaggcagatgtctaaacataaa  
E E N L Q V V L R Q M S K H K  
5086  
accgaactaaagaatattctggacatgttgcaacttgaaaaccat  
T E L K N I L D M L Q L E N H  
5131  
gagctacaaggtttgaagctacaacatgaccaaagggtatctgaa  
E L Q G L K L Q H D Q R V S E  
5176  
ttagagaagactcaggtggcagtgctagaggagaaactggagtta  
L E K T Q V A V L E E K L E L  
5221  
gagaatttgcagcagatatcccagcagcagaaaaggggaaatagag  
E N L Q Q I S Q Q Q K G E I E  
5266  
tggcagaagcagctccttgagagggataaacgagaaatagaacga  
W Q K Q L L E R D K R E I E R  
5311  
atgactgctgagtcctcgagctttacaatcgtgtgttgagtgtttg  
M T A E S R A L Q S C V E C L  
5356  
agcaaagaaaaggaagatctccaagagaaatgtgacatttgggaa  
S K E K E D L Q E K C D I W E  
5401  
aaaaagttggcacaaaccaaagggttttagcagcagcagaagaa  
K K L A Q T K R V L A A A E E  
5446  
aatagcaaaatggagcaatcaaacttagaaaagttggaattgaat  
N S K M E Q S N L E K L E L N  
5491  
gtcagaaaactgcagcaggaactagaccaactaaacagagacaag  
V R K L Q Q E L D Q L N R D K  
5536  
ttgtcactgcataacgacatttcagcaatgcaacagcagctccaa  
L S L H N D I S A M Q Q Q L Q  
5581  
gaaaaacgagaagcagtaaactcactgcaggaggaactagcta  
E K R E A V N S L Q E E L A N  
5626  
gtccaagaccatttgaacctagcaaaacaggacctgcttcacacc  
V Q D H L N L A K Q D L L H T  
5671  
accaagcatcaggatgtgttgctcagtgagcagacccgactccag  
T K H Q D V L L S E Q T R L Q  
5716  
aaggacatcagtgatgggcaaataaggtttgaagactgtcagaaa  
K D I S E W A N R F E D C Q K  
5761  
gaagaggagacaaaacaacaacttcaagtgttcagaatgag  
E E E T K Q Q Q L Q V L Q N E  
5806  
attgaagaaaacaagctcaaactagtccaacaagaaatgatgttt  
I E E N K L K L V Q Q E M M F  
5851

# FIG. 12H

cagagactccagaaagagagagaaagtgaagaaagcaaattagaa  
 Q R L Q K E R E S E E S K L E  
 5896  
 accagtaaagtgaactgaaggagcaacagcaccagctggaaaag  
 T S K V T L K E Q Q H Q L E K  
 5941  
 gaattaacagaccagaaaaagcaaactggaccaagtgtctctcaaag  
 E L T D Q K S K L D Q V L S K  
 5986  
 gtgctggcagctgaagagcgtgttaggactctgcaggaagaggag  
 V L A A E E R V R T L Q E E E  
 6031  
 aggtggtgtgagagcctggagaagacactctcccaaactaaacgg  
 R W C E S L E K T L S Q T K R  
 6076  
 cagctttcagaaaaggagcagcaattggtggagaaatcaggtgag  
 Q L S E R E Q Q L V E K S G E  
 6121  
 ctgttggccctccagaaaggcagattctatgagggcagacttc  
 L L A L Q K E A D S M R A D F  
 6166  
 agccttctgcggaaccagttcttgacagaaaagaaaagctgag  
 S L L R N Q F L T E R K K A E  
 6211  
 aagcaggtggccagcctgaaggaagcacttaagatccagcggagc  
 K Q V A S L K E A L K I Q R S  
 6256  
 cagctggagaaaaaccttcttgagcaaaaacaggagaacagctgc  
 Q L E K N L L E Q K Q E N S C  
 6301  
 atacaaaaggaaatggcaacaattgaactggtagcccaggacaac  
 I Q K E M A T I E L V A Q D N  
 6346  
 catgagcgggccaggcgcctgatgaaggagctcaaccagatgcag  
 H E R A R R L M K E L N Q M Q  
 6391  
 tatgagtacaggagctcaagaaacagatggcaaaccaaaaagat  
 Y E Y T E L K K Q M A N Q K D  
 6436  
 ttggagagaagacaaatggaaatcagtgatgcaatgaggacactt  
 L E R R Q M E I S D A M R T L  
 6481  
 aaatctgaggtgaaggatgaaatcagaaccagcttgaagaatctt  
 K S E V K D E I R T S L K N L  
 6526  
 aatcagtttcttcagaactaccagcagatctagaagctattttg  
 N Q F L P E L P A D L E A I L  
 6571  
 gaaagaaacgaaaacctagaaggagaattggaaagcttgaaagag  
 E R N E N L E G E L E S L K E  
 6616  
 aaccttccatttaccatgaatgagggaccttttgaagaaaaactg  
 N L P F T M N E G P F E E K L  
 6661  
 aacttttccaaagttcacataatggatgaacactggcgtggagaa  
 N F S Q V H I M D E H W R G E

# FIG. 12I

6706

gcactccgggagaaaactgcgtcaccgggaagaccgactcaaggcc

A L R E K L R H R E D R L K A

6751

caactccgacactgtatgtccaagcaagcagaagtattaattaaa

Q L R H C M S K Q A E V L I K

6796

ggaaagcggcagacagagggcactttacacagtttgaggagacaa

G K R Q T E G T L H S L R R Q

6841

gtagatgcttttaggggaattgggtcaccagcacctctgcagattca

V D A L G E L V T S T S A D S

6886

gcgtcatcaccagctctgtctcagctggagtcttccctcacagag

A S S P S L S Q L E S S L T E

6931

gactctcaacttggacaaaatcaggaaaagaatgcctcagccaga (SEQ ID NO:1)

D S Q L G Q N Q E K N A S A R (SEQ ID NO:2)

6976 tga 6978

+

# FIG. 13A

```

1 atggaagttgagcaagagcagcggcgagaaaggtggaggccggg
  M E V E Q E Q R R R K V E A G
46 aggacgaagcttgctcacttccgacagagaaaaacaaaggtgac
  R T K L A H F R Q R K T K G D
91 agttcgcattcggagaaaaagacggcgaagaggaagggctcggct
  S S H S E K K T A K R K G S A
136 gtcgatgcgtctgtccaggaggagagtcggtaaccaaggaggac
  V D A S V Q E E S P V T K E D
181 agcgactctgtggaggaggggacatttgcaaaagcacatcatgt
  S A L C G G G D I C K S T S C
226 gacgacacccctgatggggcaggaggggcctttgcagctcagccg
  D D T P D G A G G A F A A Q P
271 gaggactgtgatggagagaagagagaggacttgaacagctgcag
  E D C D G E K R E D L E Q L Q
316 cagaagcaagtcaatgaccatcctccagagcagtggtggatgttc
  Q K Q V N D H P P E Q C G M F
361 acagtcagtgaccacccaccagaacagcatgggatgttcacagtc
  T V S D H P P E Q H G M F T V
406 ggtgaccacccaccagaacagcgtgggatgttcacagtcagtgac
  G D H P P E Q R G M F T V S D
451 caccacccagaacagcatgggatgttcacagtcagtgaccacca
  H P P E Q H G M F T V S D H P
496 ccagaacagcgtgggatgttcacaatcagtgaccaccaaccggaa
  P E Q R G M F T I S D H Q P E
541 cagcgtgggatgttcacagtcagtgaccacacaccagaacagcgt
  Q R G M F T V S D H T P E Q R
586 gggatcttcacaatcagtgaccacccagcagaacagcgtgggatg
  G I F T I S D H P A E Q R G M
631 ttcacaaagagtggtgaacaagaatgtgaacttgccattactgac
  F T K E C E Q E C E L A I T D
676 ctggagagcggccgtgaagatgaggctggcctgcatcagagtcag
  L E S G R E D E A G L H Q S Q
721 gccgtgcatggccttgagctggaggcgctgcgcctgagctgagc
  A V H G L E L E A L R L S L S
766 aacatgcacacggcgagctggagctgacacaggccaacctccag
  N M H T A Q L E L T Q A N L Q
811 aaggagaaggagacggcattgacggagctgcgggagatgctcaac
  K E K E T A L T E L R E M L N
856 agccggcgtgccaggagctggccctgctacagagcaggcagcag
  S R R A Q E L A L L Q S R Q Q
901 cagcagctggagctcctcagggagcagcagcagcgggagaaggag
  H E L E L L R E Q H A R E K E
946 gaggtggtgctcaggtgtggacaggaagcagctgagctgaaggag
  E V V L R C G Q E A A E L K E
991 aagttacaatcagaaatggagaaaaacgcccagatagtaaagacc
  K L Q S E M E K N A Q I V K T
1036 ctgaaggaagattgggaatctgaaaaagatttatgtttagaaaat
  L K E D W E S E K D L C L E N
1081 ctacgcaaagaactgtctgcaaagcatcaatcagaaatggaggat
  L R K E L S A K H Q S E M E D
1126 ttacaaaaccagtttcagaaagaattggcagaacagagagctgag
  L Q N Q F Q K E L A E Q R A E
1171 ttggagaagatttttcaagacaaaaaccaggctgaacgggccctt
  L E K I F Q D K N Q A E R A L
1216 aggaacctggagagtcacatcaagcagccattgagaagttacgt
  R N L E S H H Q A A I E K L R

```

# FIG. 13B

1261 gaagacctgcagtcgagcacggccggtgtttagaagacttgag  
 E D L Q S E H G R C L E D L E  
 1306 ttcaagttcaaagagagcgagaaagaaaaacagctggagttagag  
 F K F K E S E K E K Q L E L E  
 1351 aatcttcaagcatcatatgaagacctgaaggcacaatcacaagaa  
 N L Q A S Y E D L K A Q S Q E  
 1396 gagatcagggcgcttgtggtcccagcttgattctgcaggaccagt  
 E I R R L W S Q L D S A R T S  
 1441 agacaggaattgagtgagctacatgagcaactcctggcgcgcacc  
 R Q E L S E L H E Q L L A R T  
 1486 tctcgtgtggaagatttagaacagctgaagcagcgagaaaaaacc  
 S R V E D L E Q L K Q R E K T  
 1531 cagcatgagtcggaactggagcaactgaggatttattttgaaaag  
 Q H E S E L E Q L R I Y F E K  
 1576 aagttaagggatgctgagaaaacttaccaagaagacctaacctg  
 K L R D A E K T Y Q E D L T L  
 1621 ttacagcagaggctgcagggggcgagggaagatgctcttctggac  
 L Q Q R L Q G A R E D A L L D  
 1666 tctgtggaagttgggttgcctgtgtgggtttagaagagaaacct  
 S V E V G L S C V G L E E K P  
 1711 gagaaaggaagaaaagatcacgttgatgaactcgagcctgagcga  
 E K G R K D H V D E L E P E R  
 1756 cataaggagagcctgccacgcttcaggcggagttagaagaaagc  
 H K E S L P R F Q A E L E E S  
 1801 cacaggcaccagctggaagcgctggagtctcccctctgcatccag  
 H R H Q L E A L E S P L C I Q  
 1846 cagcaggggcatgtctcagacagatgctgcgtagagacttcagca  
 H E G H V S D R C C V E T S A  
 1891 ttgggacacgagtggtctggaaccctctgaagggcacagccaa  
 L G H E W R L E P S E G H S Q  
 1936 gagcttccctgggtgcatctccagggtgtgcaggacggggacttg  
 E L P W V H L Q G V Q D G D L  
 1981 gaggccgacacagagcgggcagccagagtcttgggtctggaaact  
 E A D T E R A A R V L G L E T  
 2026 gagcacaaggtgcaactttcgcttcttcagactgagctcaaagaa  
 E H K V Q L S L L Q T E L K E  
 2071 gaaattgaactcctaaaaatagaaaatagaaatttgatgagaag  
 E I E L L K I E N R N L Y E K  
 2116 ttgcagcatgaaactcgtctgaaggacgatttgagaaggtaaaa  
 L Q H E T R L K D D L E K V K  
 2161 cacaatctaattgaagaccaccagaaggaactaaataatgctaag  
 H N L I E D H Q K E L N N A K  
 2206 caaaagactgagctgatgaaacaggaattccaaagaaaagaaacg  
 Q K T E L M K Q E F Q R K E T  
 2251 gactggaaagttatgaaggaggagctacagcgggaagctgaggag  
 D W K V M K E E L Q R E A E E  
 2296 aagttaacattgatgctacttgaactgagagaaaaggctgaatcc  
 K L T L M L L E L R E K A E S  
 2341 gagaaacagaccatcataaacaagtttgagcttcgagaagctgaa  
 E K Q T I I N K F E L R E A E  
 2386 atgaggcagcttcaggaccaacaggcagcccagatcctggatctg  
 M R Q L Q D Q Q A A Q I L D L  
 2431 gagaggtccttgacggagcagcagggccgcctgcagcagctggaa  
 E R S L T E Q Q G R L Q Q L E  
 2476 caggacctcacttcagacgacgcctgcattgcagccagtgtggg  
 Q D L T S D D A L H C S Q C G

# FIG. 13 C

2521 cgggagccgcccacagcccaggacggggagcttgccgcgctccac  
 R E P P T A Q D G E L A A L H  
 2566 gtgaaggaagactgcgccctgcagctgatgctggcccgagcagg  
 V K E D C A L Q L M L A R S R  
 2611 ttttttagaggaacgtaaagagatcaccgagaaattcagtgcgga  
 F L E E R K E I T E K F S A E  
 2656 caagatgccttctcgcaggaggcccaggagcagcatgcccgtgag  
 Q D A F L Q E A Q E Q H A R E  
 2701 ctgcagctcctccaggagagacaccagcagcagctcctgtcagtg  
 L Q L L Q E R H Q Q Q L L S V  
 2746 acggcggagctcgaggccagacaccaggccgcttgggagagctg  
 T A E L E A R H Q A A L G E L  
 2791 acagcctccttagagagcaagcaggggctctgctggctgcacgt  
 T A S L E S K Q G A L L A A R  
 2836 gtggccgaactgcagacaaaacacgctgcccacctcggcgctctg  
 V A E L Q T K H A A D L G A L  
 2881 gagaccagatctgtccagccttgattctttggaatcctgttac  
 E T R H L S S L D S L E S C Y  
 2926 ctctctgaatttcagaccatccgtgaggagcacaggcaggcccta  
 L S E F Q T I R E E H R Q A L  
 2971 gagctcttacgagcagactttgaggaacaactgtggaaaaaggac  
 E L L R A D F E E Q L W K K D  
 3016 tctcttcaccaaacgattttgactcaagagttggagaaactgaag  
 S L H Q T I L T Q E L E K L K  
 3061 cggaacacgaaggggagctacagtctgtgcgggaccacctgcga  
 R K H E G E L Q S V R D H L R  
 3106 accgaagtgcagacagagctcgccggaaccgtggctcacgagctg  
 T E V S T E L A G T V A H E L  
 3151 cagggagtgaccagggtgaatttggaagtgaagaaaaactgct  
 Q G V H Q G E F G S E K K T A  
 3196 ttgcatgaaaaagaggagacacttcggcttcagagtgcacaggca  
 L H E K E E T L R L Q S A Q A  
 3241 cagccttttcaccaagaggagaaagagtctttgtctctgcagctt  
 Q P F H Q E E K E S L S L Q L  
 3286 caaaagaagaatcaccaagtccagcagctgaaagaccagggttta  
 Q K K N H Q V Q Q L K D Q V L  
 3331 tccttaagtcacgagatagaagagtgcgctccgagttggaggtg  
 S L S H E I E E C R S E L E V  
 3376 ctgcagcagaggcgaggagcgaggagaaccgggaaggcgcaaactc  
 L Q Q R R E R E N R E G A N L  
 3421 ctctccatgctcaaggccgacgtcaacctgtcccacagcgaaaga  
 L S M L K A D V N L S H S E R  
 3466 ggggccctccaggacgccctgcgcaggctgctgggtttgtttgga  
 G A L Q D A L R R L L G L F G  
 3511 gagacgctgagggcagccgtcaccctgaggagccggatcggggag  
 E T L R A A V T L R S R I G E  
 3556 cgcggtggggtctctgcctggatgacgcgggagcaggcctggccctg  
 R V G L C L D D A G A G L A L  
 3601 tcgacagctccggcgctggaggagacatggtctgatgtggccctc  
 S T A P A L E E T W S D V A L  
 3646 ccggagttggacagaactttgtctgaatgtgcagagatgtcttcc  
 P E L D R T L S E C A E M S S  
 3691 gtggctgaaattagcagccacatgcgtgaaagctttctcatgagc  
 V A E I S S H M R E S F L M S  
 3736 ccagaaagtgtgcgggagtgtagcagcccatccggagggtcttc  
 P E S V R E C E Q P I R R V F



# FIG. 13 D

3781 cagagcctcagcctggccgtggacggcctcatggagatggccctg  
     Q S L S L A V D G L M E M A L  
 3826 gactccagcaggcagctggaagaagcacgccaaattcattctcgt  
     D S S R Q L E E A R Q I H S R  
 3871 ttgaaaaagaatttagttttaagaatgaggagacagcacaggtt  
     F E K E F S F K N E E T A Q V  
 3916 gtcaggaagcaccaggagctgctggagtgtttgaaggaggagagc  
     V R K H Q E L L E C L K E E S  
 3961 gcagcaaaggcagagctggcgctggagctgcacaagactcagggt  
     A A K A E L A L E L H K T Q G  
 4006 acccttgagggattcaagtgaggagacagcagatctgaaggaggtg  
     T L E G F K V E T A D L K E V  
 4051 ctggccgggaaggaggattccgagcaccgtctggtgctggagctg  
     L A G K E D S E H R L V L E L  
 4096 gagagcctgagacggcagctgcagcaggcggccaggagcaggcg  
     E S L R R Q L Q Q A A Q E Q A  
 4141 gcgctgagggaggagtgacccgtctgtggagtcggggggaggcc  
     A L R E E C T R L W S R G E A  
 4186 acagccacggacgcccaggccagagaagctgctctccggaaggaa  
     T A T D A E A R E A A L R K E  
 4231 gtggaggatctgaccaaagaacagtcggagaccaggaagcaggct  
     V E D L T K E Q S E T R K Q A  
 4276 gagaaggaccgctcagccctgctctccagatgaagattttggag  
     E K D R S A L L S Q M K I L E  
 4321 tctgagttagaagaacagctgtctcagcatcgcggtgtgccaag  
     S E L E E Q L S Q H R G C A K  
 4366 caggcggaggccgctcactgccctggaacagcagggtggcatctctg  
     Q A E A V T A L E Q Q V A S L  
 4411 gacaagcatttgcgcaaccagcggaattcatggatgagcaggca  
     D K H L R N Q R Q F M D E Q A  
 4456 gccgagcgggagcacgagcgcgaggagttccagcaggagattcag  
     A E R E H E R E E F Q Q E I Q  
 4501 aggtctggaggggcagctccgccaggcggccaagccgcagccctgg  
     R L E G Q L R Q A A K P Q P W  
 4546 ggccctcgcgacagccagcaggcgcgctggatggagaggttgag  
     G P R D S Q Q A P L D G E V E  
 4591 ttgttacaacaaaagttagagagaaaagttagatgaatttaaatgaa  
     L L Q Q K L R E K L D E F N E  
 4636 ttggctatacagaaagagtcggcagatagacaagtgttaatgcag  
     L A I Q K E S A D R Q V L M Q  
 4681 gaagaagaaattaaacgtctggaggagatgaacatcaacatcagg  
     E E E I K R L E E M N I N I R  
 4726 aaaaaagtggcccagctccaggaagaagtggaaaaacagaaaaac  
     K K V A Q L Q E E V E K Q K N  
 4771 atcgtgaaagggttggaacaggataaagaggtgttaaagaaacag  
     I V K G L E Q D K E V L K K Q  
 4816 cagatgagtagcttgcttctggcgtccacgttgagctctacacta  
     Q M S S L L L A S T L Q S T L  
 4861 gatgcaggcagatgtcccagcctccttcgggcagccctcctgag  
     D A G R C P E P P S G S P P E  
 4906 ggtccagaaatacagttagaggtgacacagagagcactcctgcgg  
     G P E I Q L E V T Q R A L L R  
 4951 cgcgagagcaggtttttgacttaaaagaacagctagaaaagatg  
     R E S E V L D L K E Q L E K M  
 4996 aaaggtgacttagaaagttaaaatgaagaaatactacatctgaac  
     K G D L E S K N E E I L H L N

# FIG. 13E

5041 ttaaaattggacatgcagaacagccagactgctgtcagcctcaga  
 L K L D M Q N S Q T A V S L R  
 5086 gaacttgaggaagagaacacgagcttgaaggtcatatataccaga  
 E L E E E N T S L K V I Y T R  
 5131 agttctgagattgaagagctgaaagccactattgaaaatctgcaa  
 S S E I E E L K A T I E N L Q  
 5176 gagaatcagaaacgattacaaaaggagaaagcagaggaaattgaa  
 E N Q K R L Q K E K A E E I E  
 5221 caactccatgaagtcattgagaagctgcagcagcagctgtccctc  
 Q L H E V I E K L Q H E L S L  
 5266 atggggcctgtggtgcacgaagtcagcgacagtcaggctggcagt  
 M G P V V H E V S D S Q A G S  
 5311 ctgcagagcgcagctgctctgctcccaggccgggggcccctcgtggg  
 L Q S E L L C S Q A G G P R G  
 5356 caggccctacagggcgagctcgaggctgcgctggaagccaaggag  
 Q A L Q G E L E A A L E A K E  
 5401 gccctgagccggctgctggctgaccaggagcgcaggcacagccag  
 A L S R L L A D Q E R R H S Q  
 5446 gccctggaggccctgcagcagcgcctccaggcgagaggaggct  
 A L E A L Q Q R L Q G A E E A  
 5491 gcggagctacagctggctgagctggagcgcaatgtagccctcagg  
 A E L Q L A E L E R N V A L R  
 5536 gaggtgaggtcgaagacatggcctcccggatccaggagttcgaa  
 E A E V E D M A S R I Q E F E  
 5581 gcggccctgaaagcaaaggaagcgacgattgccgagagaaattta  
 A A L K A K E A T I A E R N L  
 5626 gaaatcgacgctctgaaccagcggaaggcgccactctgccgag  
 E I D A L N Q R K A A H S A E  
 5671 ctggaggcgctcctgttggccttggcccgcatccgcccgcgcccctg  
 L E A V L L A L A R I R R A L  
 5716 gagcagcagcccctggcagccggggcgccgctcccagctgcag  
 E Q Q P L A A G A A P P E L Q  
 5761 tggctccgagcgcagtggtgcccgcctcagccgcccagctgcagggtg  
 W L R A Q C A R L S R Q L Q V  
 5806 ctgcaccagcgggttctgaggtgccaggtggagctggacaggcgg  
 L H Q R F L R C Q V E L D R R  
 5851 caggcccgagagccacagctcacacacgggtgcccggggcccac  
 Q A R R A T A H T R V P G A H  
 5896 ccacagcctcgcatggatggtggcgccaaggcccaggtcaccggc  
 P Q P R M D G G A K A Q V T G  
 5941 gacgtggaggcctcccatgatgctgcttggagccggttgcct  
 D V E A S H D A A L E P V V P  
 5986 gaccacaggggtgatctgcagcctgtcctggtgacgttgaaggat  
 D P Q G D L Q P V L V T L K D  
 6031 gcacctctctgcaagcaagaaggcgtgatgtcagtgctcaccgtc  
 A P L C K Q E G V M S V L T V  
 6076 tgccagaggcagctgcagtcggagctgctcttgggtgaaaaatgaa  
 C Q R Q L Q S E L L L V K N E  
 6121 atgcgcctgagctctggaggacggcggaagggttaaagaaaaagta  
 M R L S L E D G G K G K E K V  
 6166 ctggaagattgtcagctgccgaaggctcgatctcgtagctcagggtg  
 L E D C Q L P K V D L V A Q V  
 6211 aaacagcttcaggaaaaactgaaccgtttgctgtattccatgacc  
 K Q L Q E K L N R L L Y S M T  
 6256 ttccagaatgtggatgctgccgacaccaaattctctgtggcccatg  
 F Q N V D A A D T K S L W P M

FIG. 13 F

6301 gcctcagcacacctgttgagagcagctggagtgatgattcctgt  
 A S A H L L E S S W S D D S C  
 6346 gacggagaagagcctgacatatcacccacatagacacatgtgat  
 D G E E P D I S P H I D T C D  
 6391 gccaatagaccacggggggtgtaactgatgttatcaaaaatcag  
 A N T A T G G V T D V I K N Q  
 6436 gccatagacgcgtgtgatgccaatacaacccagggggtgtaact  
 A I D A C D A N T T P G G V T  
 6481 gatgttatcaaaaattgggattccttgataaccagatgaaatgcc  
 D V I K N W D S L I P D E M P  
 6526 gattctcccattcaagaaaaatcagaatgtcaggacatgtctctt  
 D S P I Q E K S E C Q D M S L  
 6571 tcttcaccgaccagcgtacttggtggctcccgccaccagagccac  
 S S P T S V L G G S R H Q S H  
 6616 actgcagagctgggcccgggaagagcccgggtcgggatgctggac  
 T A E A G P R K S P V G M L D  
 6661 ctgtcttcctggagctcccctgaggtcctcaggaaggactggacc  
 L S S W S S P E V L R K D W T  
 6706 ctggagccctggcccagcctccccgtgacacccactcaggagcc  
 L E P W P S L P V T P H S G A  
 6751 ctgagcctgtgcagtgccgacacatccctgggggacagggcggac  
 L S L C S A D T S L G D R A D  
 6796 acctcgctgccacagacccaggggcccgggctgctttgttcccca  
 T S L P Q T Q G P G L L C S P  
 6841 ggcgtgtctgcagcagcgtggcactgcagtgggccgagtctccg  
 G V S A A A L A L Q W A E S P  
 6886 ccggctgacgaccaccatgtgcagaggacggctgtggagaaagat  
 P A D D H H V Q R T A V E K D  
 6931 gtcgaagattttatcacaacatcctttgattctcaagaaacatta  
 V E D F I T T S F D S Q E T L  
 6976 agttcacctcctcctggattagaaggaaaagctgatagaagtgag  
 S S P P P G L E G K A D R S E  
 7021 aaaagtgcaggctcgggttttgagcaagactgagcccgggtca  
 K S D G S G F G A R L S P G S  
 7066 ggaggccctgaggctcaaactgctggtcctgtgacccctgcttcc  
 G G P E A Q T A G P V T P A S  
 7111 atctctggaaggtttcagccgctgccggaagccatgaaggagaag  
 I S G R F Q P L P E A M K E K  
 7156 gaagtgcgtccgaagcacgtgaaggctttactgcagatgggtgcgt  
 E V R P K H V K A L L Q M V R  
 7201 gacgagagccaccagatcctggcgctgtcagaaggccttgacccc  
 D E S H Q I L A L S E G L A P  
 7246 ccaagcggcgagccacacccaccccggaaggaagacgagatacag  
 P S G E P H P P R K E D E I Q  
 7291 gacatctcgctccatgggggaaagacgcaggaagtgccaccgag  
 D I S L H G G K T Q E V P T A  
 7336 tgccccgattggagaggggaccttctgcaggttgcaagaggcc  
 C P D W R G D L L Q V V Q E A  
 7381 tttgaaaaagagcaggagatgcagggggttgagctgcagccccga  
 F E K E Q E M Q G V E L Q P R  
 7426 ctgagtggtcagatctgggggtcacagctccctgctcgaaagg  
 L S G S D L G G H S S L L E R  
 7471 ctggagaagatcatccgtgagcaggagacctgcaggaaaagtcc  
 L E K I I R E Q G D L Q E K S  
 7516 ctggagcatcttcgcttgccggaccggagcagcctgctgtccgag  
 L E H L R L P D R S S L L S E

# FIG. 13G

7561 atccaggcgctgctgcccagctgcgcatgacgcacctgcagaac  
 I Q A L R A Q L R M T H L Q N  
 7606 caggagaagctgcagcacttgcgacggcgctgacaagcgagag  
 Q E K L Q H L R T A L T S A E  
 7651 gcgcgcgggagccagcaggagcaccagctgcgagcaggttgaa  
 A R G S Q Q E H Q L R R Q V E  
 7696 ctgctggccttataaagtagagcaggagaagtgcattgctggtgac  
 L L A Y K V E Q E K C I A G D  
 7741 ttgcagaagacgctgagtgagagcaagagaaggcaaacagcgtg  
 L Q K T L S E E Q E K A N S V  
 7786 cagaagctcctggcgggagcagactgtagtgcgagatttgaag  
 Q K L L A A E Q T V V R D L K  
 7831 tccgacctctgtgagagcaggcagaagagcgaacagctgtcccg  
 S D L C E S R Q K S E Q L S R  
 7876 tccctctgagaggtgcagcaggaggtcctccagctgagatccatg  
 S L C E V Q Q E V L Q L R S M  
 7921 ctgagcagtaaggagaacgagctgaaggccgcgcttcaggagctg  
 L S S K E N E L K A A L Q E L  
 7966 gagagtgcagcagggaaggggcgctgcccctgcagagccagctggag  
 E S E Q G K G R A L Q S Q L E  
 8011 gaggagcagctgcggcacctgcagagggagagccagagtccaag  
 E E Q L R H L Q R E S Q S A K  
 8056 gccctggaggagctgcggcgctctttggagacacagcgtgctcag  
 A L E E L R A S L E T Q R A Q  
 8101 agcagtcgactctgctggcactgaaacacgagcagacggccaag  
 S S R L C V A L K H E Q T A K  
 8146 gacaacctgcagaaggagctgcgtatcgagcactcacgctgcgag  
 D N L Q K E L R I E H S R C E  
 8191 gccttgctggctcaggagcggagccagctctctgagctccagaag  
 A L L A Q E R S Q L S E L Q K  
 8236 gaccttgcggtgagaagagccgcaccctggagctgtcagaggcc  
 D L A A E K S R T L E L S E A  
 8281 ttgcggcacgagcggctcctgaccgagcagctgagccagaggaca  
 L R H E R L L T E Q L S Q R T  
 8326 caggaggcttgctgcaccaggacacacaggcccatcacgctctg  
 Q E A C V H Q D T Q A H H A L  
 8371 ctgcagaagctgaaggaggagaagtcccgggtggtggacttgaa  
 L Q K L K E E K S R V V D L Q  
 8416 gcgatgcttgaaaagggtgcagcagcaagccctgcattctcagcag  
 A M L E K V Q Q Q A L H S Q Q  
 8461 cagcttgaggctgaggctcagaagcactgtgaggcgtcaggaga  
 Q L E A E A Q K H C E A L R R  
 8506 gagaaggaggttaagtgccacactgaagtcgacggtggaagccctg  
 E K E V S A T L K S T V E A L  
 8551 cacacccaaaaacgagagctgagatgctctctggagagagagagg  
 H T Q K R E L R C S L E R E R  
 8596 gagaaccagcgtggttgaggcagaattagagcagtcacaccca  
 E K P A W L Q A E L E Q S H P  
 8641 cggttgaaagagcaagaaggacgcaaggctgcgaggaggagcgcg  
 R L K E Q E G R K A A R R S A  
 8686 gaggccaggcagagcccagcggctgcggagcagtgagggaagtgg  
 E A R Q S P A A A E Q W R K W  
 8731 cagagagacaaggagaagctgcgagaattagaactgcagcgtcag  
 Q R D K E K L R E L E L Q R Q  
 8776 cgtgacttgcataagatcaagcagcttcagcagacagtgagagac  
 R D L H K I K Q L Q Q T V R D

# FIG. 13H

8821 ctggagtcgaaggacgaggtgcctggcagccgcctccacctaggt  
 L E S K D E V P G S R L H L G  
 8866 tctgcccgcagggctgccggtcggatgcggaccacctccgggaa  
 S A R R A A G S D A D H L R E  
 8911 cagcagcgagagctggaggcgatgaggcagcggtgctctctgcc  
 Q Q R E L E A M R Q R L L S A  
 8956 gcccggttctcaccagcttcaccagccaggccgtggacaggaca  
 A R L L T S F T S Q A V D R T  
 9001 gttaatgattggacgtcatccaatgagaaagcagtgatgtcttta  
 V N D W T S S N E K A V M S L  
 9046 ctgcacacgttgaggagctgaagtctgacttgagcaggcccacc  
 L H T L E E L K S D L S R P T  
 9091 tcctcccagaaaaaattggcagcagagctgcagttccagtttgtg  
 S S Q K K M A A E L Q F Q F V  
 9136 gacgtcctgtgaaagacaatgtttccctcacaaaagcgctcagc  
 D V L L K D N V S L T K A L S  
 9181 acggtgacccaggagaagctggagctgagcagagccgtgtctaag  
 T V T Q E K L E L S R A V S K  
 9226 cttgagaagttgctgaagcaccatctgcagaagggctgcagcca  
 L E K L L K H H L Q K G C S P  
 9271 agcaggtcggaaaggtctgcttggaaagccagacgaaacggctcca  
 S R S E R S A W K P D E T A P  
 9316 cagagttccctgaggcgcccagaccccgccggcttccaccagct  
 Q S S L R R P D P G R L P P A  
 9361 gccagcgaggaagcacacaccagcaatgtcaagattggaaaaattg  
 A S E E A H T S N V K M E K L  
 9406 tacctgcattacttgagagcagagagctttagaaaagctctgatt  
 Y L H Y L R A E S F R K A L I  
 9451 tatcaaaagaagtatcttttctgttattggtggattccaggat  
 Y Q K K Y L L L L I G G F Q D  
 9496 tctgaacaagaaacactctccatgattgccatttgggggtattt  
 S E Q E T L S M I A H L G V F  
 9541 ccttccaaagcagaacggaaaatcacatctcgtcctttcaccagg  
 P S K A E R K I T S R P F T R  
 9586 ttccgcacggccgctcaggggtggtcattgcaatattaagattacgt  
 F R T A V R V V I A I L R L R  
 9631 tttttggttaagaaatggcaagaagtagatcggaaggagctctg  
 F L V K K W Q E V D R K G A L  
 9676 gcacaaggcaaagcccctcgcccaggggcccgagcacgacagccg  
 A Q G K A P R P G P R A R Q P  
 9721 cagtctccaccagaaccagagagctccccccaacccgggatgta  
 Q S P P R T R E S P P T R D V  
 9766 ccctctggccacaccagggaaccctgccagagggccgcagactggca  
 P S G H T R D P A R G R R L A  
 9811 gcagcagcctccccacacagtgggggaagagccactccatcccca  
 A A A S P H S G G R A T P S P  
 9856 aattcaagattagaaagatccctgactgcttctcaagatccagaa  
 N S R L E R S L T A S Q D P E  
 9901 cattccttgacagagtatattcaccatttagaagtgatccagcaa  
 H S L T E Y I H H L E V I Q Q  
 9946 agattgggggggtactaccagattctacttcaaagaaatcctgc  
 R L G G V L P D S T S K K S C  
 9991 caccgatgattaaacagtga 10011  
 H P M I K Q \*

(SEQ ID NO:3)

(SEQ ID NO:4)

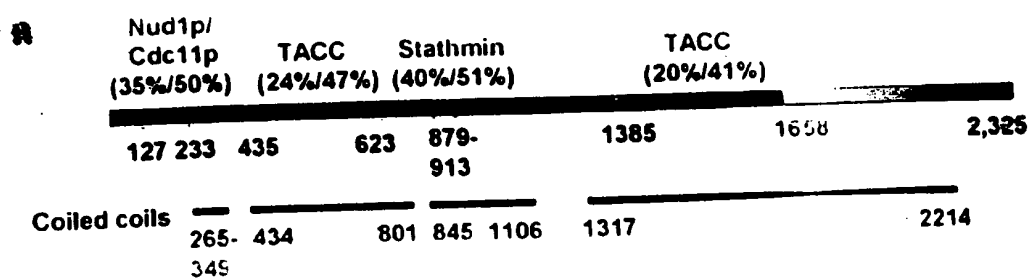


Figure 14

FIG. 16A

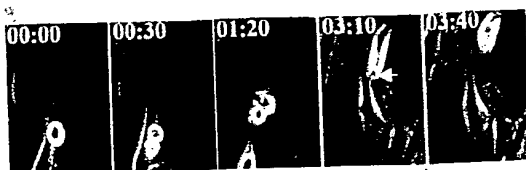


FIG. 16B

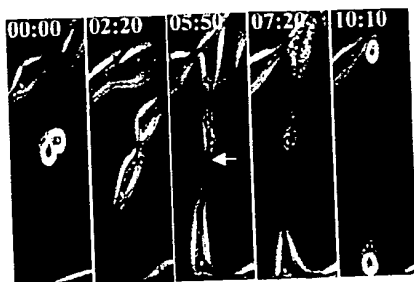


FIG. 16C

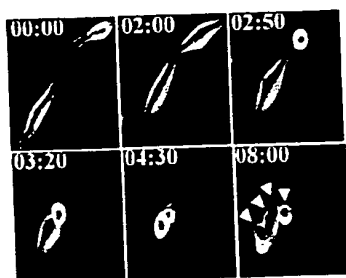


FIG. 16D

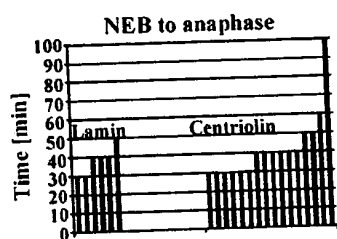


FIG. 16E

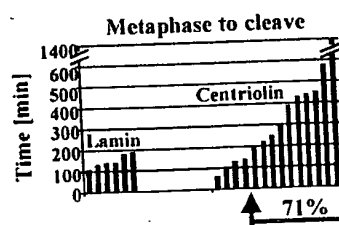


FIG. 16F

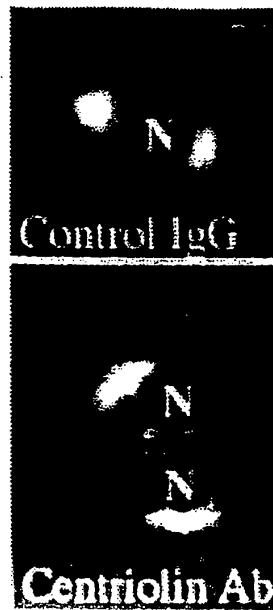


Figure 17